

Page 1 of 1

All amounts are calculated in domestic currency.

All Vendors	PO ID PO28809	All Receipt Dates	All Line Item Types
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All Item ID/GL/WOs	All Rec. Employees	All Currencies

Grouped by Vendor ID

[illegible]

Ship From:
THYSSENKRUPP MATERIAUX NA
4700 BOIS FRANC
ST. LAURENT, QC H4S 1A7
Tel: 514-337-0161 Fax: 514-745-2968

Ship To: (1)
DART AEROSPACE
1270 ABERDEEN ST
HAWKESBURY, ON K6A 1K7
Tel: 613-632-9577 Fax: 613-632-1053

B I L L O F L A D I N G

No: VIM 455663
Ship Date 17Jun15 at 9:53 From VFW
Probill
Via VIM DELIVERY
FOB CONCORD
Frt PREPAID
Route 0- 0 Manifest
Vhcle Trailer
Slp STAN IVERS (905-532-1350)
Sold To: (20115)
DART AEROSPACE
1270 ABERDEEN ST
HAWKESBURY, ON K6A 1K7

B I L L O F L A D I N G

1) Our Order PEC-814691- 1 Your PO # 28809
STAINLESS STEEL ROUND BAR 303 STAINLESS
.750" DIA X 144.0000"
Heat Number Tag No Quantity PCS Net Wt Gr LBS
PLANCHE#1 R305 V2P7 181012 48 ' 3.0000 " 4 81 98

2) Our Order PEC-814691- 2 Your PO # 28809
STAINLESS STEEL SQ BAR 304L
1.00" X 144.0000"
Heat Number Tag No Quantity PCS Wt LBS
PLANCHE#1 S-11848 179909 12 FT 1 47

3) Our Order PEC-814691- 3 Your PO # 28809
STAINLESS STEEL ROUND BAR 304L
.375" DIA X 144.0000"
Heat Number Tag No Quantity PCS Wt LBS
PLANCHE#1 T5B7 178717 12 FT 1 5

4) Our Order PEC-814691- 4 Your PO # 28809
ALUMINUM FLAT BAR 6061-T6511
1.00" x 2.00" X 144.0000"
Heat Number Tag No Quantity PCS Wt LBS
PLANCH#1 HK104-196 181595 12 FT 1 28

5) Our Order PEC-814691- 5 Your PO # 28809
Part # ** OFFERING GRADE ***** Rel #
ALUMINUM SHEET 5052-H32
.0400 Nom X 48.0000" X 120.0000"
Heat Number Tag No Quantity PCS Net Wt Gr LBS

Page: 1Continued

TOUTES ERREURS ET/OU MARCHANDISES MANQUANTES DOIVENT ÊTRE
RAPPORTÉES IMMÉDIATEMENT.

ERRORS OR SHORTAGE MUST BE REPORTED IMMEDIATELY

RETOUR DE MARCHANDISES AVEC NOTRE NUMERO D'APPROBATION SEULEMENT.
MERCHANDISE MAY NOT BE RETURNED WITHOUT OUR APPROVAL NUMBER.

REÇU EN BONNE CONDITIONS / RECEIVED IN GOOD CONDITION

DATE

Sp 1500-17

Sp 1500-17

Ship From:
THYSSENKRUPP MATERIAUX NA
4700 BOIS FRANC
ST. LAURENT, QC H4S 1A7
Tel: 514-337-0161 Fax: 514-745-2968

Ship To: (1)
DART AEROSPACE

No: VIM 455663
Ship Date 17Jun15 at 9:53 From VFW
Probill
Via VIM DELIVERY
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Route 0- 0 Manifest
Vhcle Trailer
Slp STAN IVERS (905-532-1350)
Sold To: (20115)
DART AEROSPACE

=====

B I L L O F L A D I N G									
1 CRATE REC	B-12021115	315854	40.00 SFT	1	22	260			
			Tags	PCS	Net Wt	Gr	LBS		
			5	8	183	438			

TOTAL:

Heat Number *** Chemical Analysis ***
B-12021115
HK104-196
S-11848
T5B7

MILL TEST REPORTS, PACKING SLIPS ARE TO SENT
WITH MATERIAL AND FAXED TO THE CUSTOMER PRIOR
TO SHIPPING.
ATTN: CHANTAL/LINDA
** ALL PACKING SLIPS MUST HAVE THE HEAT NUMBER **
** REFERENCED ON IT **

***UNE SURCHARGE D'ENERGIE DE \$25.00
SERA AJOUTEE A CHAQUE COMMANDE.***
***PLEASE NOTE A \$25.00 ENERGY SURCHARGE WILL BE
ADDED TO EVERY ORDER.***
*** POUR VOS BESOINS D'ACIER INOXYDABLE,
CONTACTEZ-NOUS. NOUS L'AVONS! TEL. 800-926-2600
*** FOR ALL YOUR STAINLESS STEEL NEEDS, CALL US.
*** WE HAVE IT! *** TEL. 800-926-2600 ***

NOS HEURES DE CUEILLETTE SONT DU LUNDI AU VENDREDI
DE 8H30 A 12H00 ET DE 13H00 A 16H30.
CUSTOMER PICK-UP HOURS ARE MONDAY TO FRIDAY
FROM 8:30 AM TO NOON AND 1:00 PM TO 4:30 PM.

NOUS SERONS FERMES VENDREDI LE 3 JUILLET/15 POUR
LA FETE DU CANADA ET SERONS OUVERTES MERCREDI LE

Page: 2Continued

TOUTES ERREURS ET/OU MARCHANDISES MANQUANTES DOIVENT ÊTRE
RAPPORTÉES IMMÉDIATEMENT.
ERRORS OR SHORTAGE MUST BE REPORTED IMMEDIATELY
RETOUR DE MARCHANDISES AVEC NOTRE NUMERO D'APPROBATION SEULEMENT.
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REÇU EN BONNE CONDITIONS / RECEIVED IN GOOD CONDITION

DATE

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4700 BOIS FRANC
ST. LAURENT, QC H4S 1A7
Tel: 514-337-0161 Fax: 514-745-2968

Ship To: (1)
DART AEROSPACE

No: VIM 455663
Ship Date 17Jun15 at 9:53 From VFW
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Route 0- 0 Manifest
Vhcle Trailer
Slp STAN IVERS (905-532-1350)
Sold To: (20115)
DART AEROSPACE

=====

B I L L O F L A D I N G

1 JUILLET/15 AFIN DE MIEUX VOUS SERVIR.
WE WILL BE CLOSED ON FRIDAY, JULY 3/15 FOR CANADA
DAY AND WILL BE OPENED ON WED., JULY 1/15 IN ORDER
TO SERVE YOU BETTER.

Page: 3 Last

TOUTES ERREURS ET/OU MARCHANDISES MANQUANTES DOIVENT ÊTRE
RAPPORTÉES IMMÉDIATEMENT.
ERRORS OR SHORTAGE MUST BE REPORTED IMMEDIATELY
RETOUR DE MARCHANDISES AVEC NOTRE NUMERO D'APPROBATION SEULEMENT.
MERCHANDISE MAY NOT BE RETURNED WITHOUT OUR APPROVAL NUMBER.

REÇU EN BONNE CONDITIONS / RECEIVED IN GOOD CONDITION

DATE

THYSSENKRUPP MATERIALS NA

DART AEROSPACE
STAINLESS STEEL ROUND BAR 303 STAINLESS
750" DIA X 144.0000"
PART NO.

PO/Rel 28809

Nous certifions que le document reproduit ici est
une copie conforme du rapport fourni par le
fournisseur du matériel ou les données résultent

de l'analyse faite par un laboratoire qualifié.
SIGNÉ PAR: LUCY TRUGLIO

BL VIM-455663-001

16jun15
Pg 1/2

Certificate of Mill Test Results



740 Imperial Road North

METALLURGICAL TEST REPORT

North American Stainless Canada Inc.
740 Imperial Road North
Guelph, ON N1K1Z3
Canada

Certificate: 62656 1 Mail To:

SHIP TO:

Date: 5/26/2015 Page: 1

Customer: 007205 001

THYSSENKRUPP MATERIALS
A DIVISION OF THYSSENKRUPP MATERIALS NA
4700 CHEMIN DU BOIS FRANCO
SAINT LAURENT, QC H4S1A7

THYSSENKRUPP MATERIALS
A DIVISION OF THYSSENKRUPP MATERIALS NA
4700 CHEMIN DU BOIS FRANCO
SAINT LAURENT, QC H4S1A7

Steel: 303
Finish: CD

Your Order: VIM630739

NAS Order: PN 0051786 14

Corrosion:

PRODUCT DESCRIPTION:

Round-Bar, Annealed, Cold Draw
ASTM A582/13 EN 10204 3.1, ASTM A484/11
AMS 5640-1 TYPE 1, Q08-764B CONDITION A
SOLUTION ANNEAL TEMP 1900F MIN

REMARKS:

COMPLIES W/REQUIREMENTS OF DPM 251.225-7009 EU DIRECTIVE
2011/65/EU, ROHS. EAF+AD+CC. NO WELD REPAIR. MELTED AND WFG
IN USA FREE FROM MERCURY AND LOW MELTING ALLOY CONTAMINATION

15-6-21

Product Id	SKID #	Diameter	Size	Weight	Length	Mark	Pieces	Commodity Code
BH1951 2		.7500		1.051	144.00	20	1	

CHEMICAL ANALYSIS

CM(Country of Melt) ES(Spain) US(United States) ZN(South Africa) JP(Japan)

Lab Accreditation Bureau, ISO/IEC 17025, Certificate# L2323

Chemical Analysis per ASTM A751/08

HEAT	CM	C %	CO %	CR %	CU %	MN %	MO %	N %	NI %	P %
V2P7	US	.0429	.1940	17.2070	.3625	1.8140	.3540	.0456	8.1650	.0315

S %	SI %
.3450	.5180

MECHANICAL PROPERTIES

Product Id	1 d o x	HB No.	.2YS KSI	UTS KSI	RA %	Elong % 4D
BH1951 2	R L	235.0	84.36	107.29	35.37	29.59

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical
Dept. Mgr.

18/8/2015

THYSSENKRUPP MATERIALS NA

DART AEROSPACE
STAINLESS STEEL ROUND BAR 303 STAINLESS
.750" DIA X 144.0000"
PART NO.

PO/Rel 28809

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Certificate of Mill Test Results
BL VIM-455663-001
16JUN15
Pg 2/2



740 Imperial Road North

METALLURGICAL TEST REPORT

North American Stainless Canada Inc.
740 Imperial Road North
Guelph, ON N1K1Z3
Canada

Certificate: 62656 2 Mail To: THYSSENKRUPP MATERIALS Ship To: THYSSENKRUPP MATERIALS Date: 5/26/2015 Page: 1

Customer: 007205 001 A DIVISION OF THYSSENKRUPP MATERIALS NA 4700 CHEMIN DU BOIS FRANCO Steel: 303
SAINT LAURENT, QC H4S1A7 SAINT LAURENT, QC H4S1A7 Finish: CD

Your Order: VIM630739 NAS Order: PN 0051786 14 Corrosion:

PRODUCT DESCRIPTION:

Round Bar, Annealed, Cold Draw
ASTM A582/12 EN 10204 3.1, ASTM A484/11
AMS 5640U TYPE 1, Q08-764B CONDITION A
SOLUTION ANNEAL TEMP 1900F MIN

REMARKS:

COMPLIES W/REQUIREMENTS OF DPAR 252.225-7009 EU DIRECTIVE
2011/65/EU. ROHS. PAH+AD+CC. NO WELD REPAIR. MELTED AND WPG
IN USA FREE FROM MERCURY AND LOW MELTING ALLOY CONTAMINATION

Product Id	Skid #	Diameter	Size	Weight	-----Length-----	Mark	Pieces	Commodity Code
BH1951 4		.7500		1.068	144.00	21	1	

CHEMICAL ANALYSIS

CM(Country of Melt) ES(Span) US(United States) ZA(South Africa) JP(Japan) Lab Accreditation Bureau, ISO/IEC 17025, Certificate# L2323
Chemical Analysis per ASTM A751/08

HEAT	CM	C %	CO %	CR %	CU %	NI %	MO %	M %	P %
V2P7	US	.0429	.1940	17.2070	.3625	1.8140	.3540	.0456	8.1650
									.0315

S %	SI %
.3450	.5180

MECHANICAL PROPERTIES

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Technical
Dep't. Mgr. *ABHJEET BHAVE*

THYSSENKRUPP MATERIALS NA

DART AEROSPACE
STAINLESS STEEL SQ BAR 304L
1.00" X 144.0000"
PART NO.

PO/Ref 28809
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BL VIM-455663-002

16Jun15

Pg 1/1

de l'analyse faite par un laboratoire qualifié.
SIGNE PAR: LUCY TRUGLIO



INSPECTION CERTIFICATE

Certificate Type : EN 10204 / 3.1

Our Sales Order No. : 100113	Invoice No. : 1415110030	Certificate No. : 2015-0367
Customer Order Ref. : VIM-627939	Invoice Date : 12/3/2015	Date : 12/3/2015

Customer : Thyssenkrupp Materials NA
2821 Langstaff Rd.,
Concord, Ontario, L4K 5C6, CANADA

Trade Mark:

ASSL

Inspector's Mark:

ASS1

Material Details	Stainless Steel Grade 1.4307 Square Bar Cold Drawn		
Steel Grade	304/304 L / 1.4301/1.4307	Shape	Square Bar
Heat Number	S-11848	Tolerance	h 11
Net Weight	1596.145 LBS	Number of Bars	35
Product Markings	AG-0924	Length of Bars	12-14 ft
Requirements	AMS 5639H:2002 AMS 5647:2011 AMS-QQ-S-7630:2008 ASME SA 182:2011 ASME SA 473:2011 ASTM A 182:2014 ASTM A 276:2013 ASTM A 479:2014	Making Process	EF/ADD/MEMS

CHEMICAL ANALYSIS

	C %	Si %	Mn %	P %	S %	Cr %	Mo %	Ni %	Cu %	N %	Nb %	Co %	V %	Pb %	H2(ppm)	As %
Min.						18.00		9.0								
Max.	0.050	1.00	2.00	0.040	0.030	20.00	1.0	10.05	1.00	0.1						
MeN	0.022	0.32	1.74	0.016	0.022	18.23	0.29	8.14	0.37	0.0987						

MECHANICAL PROPERTIES

	YS (R _{0.2}) (N/MM ²) ASTM A 270:2014	UTS (N/MM ²) ASTM A 270:2014	% Elongation ASTM A 270:2014	% Reduction Area ASTM A 270:2014	Hardness (BHN) ASTM A 270:2014	Charpy Impact Notch (Longitudinal) (Joules)			
						Temp. Deg. (C)	1	2	3
Min.									
Max.									
Results	516.44	629.71	46.00	64.12	229				AVG

Heat Treatment:
Solution Annealed @ 1050°C Soaking for 1hr 20mins & Water Quenching

Remarks:

- Country Of Origin Of Goods - India
- Free from Radioactivity - verified through Gamma Ray Spectrometer
- No Mercury Contamination : Satisfactory
- Micro & Macro Test - Satisfactory
- No welding has been performed on the material
- Heat Treatment Furnace calibrated as per AMS 2759E
- Specimen Size for UTS - 12.50 mm
- Visual & Dimensional Inspection - OK
- Material Identification tested through X-ray based portable Spectrometer
- RCHS Compliance

ASS1

QA Head/NDT Inspector
AMBICA STAINLESS STEEL LIMITED

We confirm that the material is manufactured & supplied in accordance to the Purchase Order

Ambica Stainless Steel Limited

THYSSENKRUPP MATERIALS NA

DART AEROSPACE

ALUMINUM FLAT BAR 6061-T6511

1.00" x 2.00" X 144.0000"

PART NO.

PO/Rel 28809

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Certificate of Mill Test Results

BL VIM-455663-004

16Jun15

Pg 1/2

de l'analyse faite par un laboratoire qualifié.
SIGNE PAR: LUCY TRUGLIO

KAISER
ALUMINUM
FABRICATED PRODUCTS

Best in Class

CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
5205 KAISER DRIVE
KALAMAZOO, MI 49048

CUSTOMER PO NUMBER: VIM-631550-1		CUSTOMER PART NUMBER: B22/STK		PRODUCT DESCRIPTION: 1.000 X 2.000 SC RECT BAR	
KAISER ORDER NUMBER: 688313	LINE ITEM: 001	SHIP DATE: 06/09/2015	KAISER LOT NUMBER: HK104-196	ALLOY: 6061	TEMPER: T6511
WEIGHT SHIPPED: 0.000 LB	QUANTITY: 0.000 PCS	B/L NUMBER: 612204	DIAM/DAF/THKNS:	WIDTH:	LENGTH: FT
SHIP TO: THYSSENKRUPP CANADA 4700 BOIS FRANC ST LAURENT, PQ H4S 1A7 CANADA			SOLD TO: THYSSENKRUPP CANADA 4700 BOIS FRANC ST LAURENT, PQ H4S 1A7 CANADA		

Actual Physical Properties

REFERENCE	DASH#	SAMPLE#	UTS (KSI)	YTS (KSI)	ELONG%	HARDNESS	CONDUCT.	BEND
HK104-196	0001	1	51.5	46.3	17.0	RE 92	N/A	N/A
HK104-196	0001	2	54.0	46.4	17.0	RE 92	N/A	N/A
HK104-196	0001	3	52.3	44.5	19.0	RE 92	N/A	N/A
HK104-196	0001	4	53.8	50.1	17.0	RE 97	N/A	N/A
HK104-196	0001	5	53.6	49.7	15.0	RE 97	N/A	N/A

Chemical Composition (wt%), Aluminum Remainder

LIMITS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Zr	Ea	Tot
Maximum	0.80	0.70	0.40	0.15	1.20	0.35	0.25	0.15	NA	NA	NA	0.05	0.15
Minimum	0.40	0.00	0.15	0.00	0.80	0.04	0.00	0.00	NA	NA	NA	0.00	0.00
H46231	.77	.42	.26	.12	.90	.10	.12	.02	.01	.00	.00	.01	.04
H46213	.72	.48	.23	.09	.91	.11	.14	.03	.00	.00	.00	.01	.04
H46152	.71	.37	.24	.10	.86	.11	.11	.02	.01	.00	.00	.01	.04

Applicable Requirements:

ASTM-B221-14 STENCILED ASME-SB221 1998 SECT II AMS-QQ-A-200/8 97 (REAF 2012) UNS#A96061
(T6511 also conforms to T6-not applicable to other tempers)

Miscellaneous Notes

MANUFACTURED IN USA (SHERMAN, TX) MELTED IN USA
MERCURY IS NOT A NORMAL BACKGROUND ELEMENT IN ALUMINUM ALLOYS. NEITHER MERCURY NOR ANY
OF ITS COMPOUNDS ARE UTILIZED BY KAISER ALUMINUM IN THE MANUFACTURE OF THIS MATERIAL.

Plant Serial: 00180634

Kaiser Order Number: 688313

Line Item: 001

THYSSENKRUPP MATERIALS NA

DART AEROSPACE

ALUMINUM FLAT BAR 6061-T6511

1.00" x 2.00" X 144.0000"

PART NO.

PO/Rel 28809

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Certificate of Mill Test Results

BL VIM-355663-004

16Jun15

Pg 2/2

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SIGNE PAR: LUCY TRUGLIO

KAISER
ALUMINUM
FABRICATED PRODUCTS

Best in Class

CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
5205 KAISER DRIVE
KALAMAZOO, MI 49048

CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms and conditions of sale. Test reports are on file, subject to examination.

Aimee L. Macnowski, Quality & Technology Manager

Aimee L. Macnowski

Plant Serial: 00180634
Kaiser Order Number: 688313
Line Item: 001

THYSSENKRUPP MATERIALS NA

DART-AEROSPACE

ALUMINUM SHEET 5052-H32
 .0400 Nom X 48.0000" X 120.0000"
 PART NO. ** OFFERING GRADE*****

PO/Rel 28809

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Certificate of Mill Test Results

BL VIM-455663-005

16Jun15

de l'analyse faite par un laboratoire qualifié.
 SIGNE PAR: LUCY TRUGLIO

Pg 1/2

ZHENGZHOU MINGTAI INDUSTRY CO., LTD
 CHANGCHUN ROAD NO.6, HIGH AND NEW TECHNOLOGY ZONE,
 ZHENGZHOU HENAN CHINA
 TEL:+86-371-87898715 FAX:86-371-67898612

MILL TEST CERTIFICATE

TO: OLBERT METAL SALES LIMITED
 989 DERRY RD. EAST, SUITE 305 MISSISSAUGA,
 ONTARIO CANADA L5T 2J8

INVOICE NO.: ZOTO120201

CONTRACT NO: 1769

LOADING PORT: QINGDAO, CHINA

DESTINATION: TORONTO, CANADA

SHIPPING MARKS: N/M

DATE: FEB, 21, 2011

DESCRIPTION OF GOODS: *June 21*
 ALUMINUM SHEET 3003 H14
 CERTIFIED TO ALL AA, ASTM B209 - 10, AMS/QQA 250/2, AMS 4008K SPECS.
 ALUMINUM SHEET 5052 H32
 CERTIFIED TO ALL AA, ASTM B209 - 10, AMS/QQA 250/8, AMS 4016L SPECS.
 ALUMINUM TREAD PLATE 3003 H22
 CERTIFIED TO MINGTAI TREAD BRIGHT SPECS
 REF: 1769
 CIF TORONTO, CANADA

CHEMICAL COMPOSITION											
Heat No.	Alloy	Si	Fe	Cu	Mn	Mg	Zn	Ti	Cr	Others	Al
B-12011242	3003	0.066	0.563	0.113	1.127	0.016	0.007	0.025	0.01	0.15	REMAINDER
B-12011242	3003	0.066	0.563	0.113	1.127	0.016	0.007	0.025	0.01	0.15	REMAINDER
D1202001	3003	0.065	0.566	0.121	1.106	0.004	0.005	0.028	0.007	0.15	REMAINDER
D1202001	3003	0.065	0.566	0.121	1.106	0.004	0.005	0.028	0.007	0.15	REMAINDER
Z-1201YB019	3003	0.084	0.565	0.112	1.114	0.026	0.008	0.032	0.012	0.15	REMAINDER
Z-1201YB036	3003	0.08	0.556	0.115	1.114	0.005	0.006	0.023	0.008	0.15	REMAINDER
D1201132	5052	0.085	0.34	0.008	0.05	2.246	0.005	0.015	0.182	0.15	REMAINDER
D1201132	5052	0.085	0.34	0.008	0.05	2.246	0.005	0.015	0.182	0.15	REMAINDER
B-12021115	5052	0.067	0.391	0.02	0.068	2.314	0.007	0.026	0.189	0.15	REMAINDER
B-12021115	5052	0.067	0.391	0.02	0.068	2.314	0.007	0.026	0.189	0.15	REMAINDER
MECHANICAL PROPERTY											
Heat No.	Alloy	Temper	Specs(In)	Tensile strength (Mpa/ ksi)		Elongn %					
B-12011242	3003	H14	.04*48*96	-	165	24	12				
B-12011242	3003	H14	.04*48*120	-	165	24	12				
D1202001	3003	H14	.188*48*120	-	158	23	21				
D1202001	3003	H14	.188*48*96	-	158	23	21				

THYSSENKRUPP MATERIALS NA

DART AEROSPACE

ALUMINUM SHEET 5052-H32

.0400 Nom X 48.0000" X 120.0000"

PART NO. ** OFFERING GRADE *****

PO/Rel 28809

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BL VIM-455663-005

16Jun15

Pg 2/2

de l'analyse faite par un laboratoire qualifie.
SIGNE PAR: LUCY TRUGLIO

Z-1201YB019	3003	H22	.125*60*144	133	19	21
Z-1201YB036	3003	H22	.188*48*144	139	20	20
D1201132	5052	H32	.188*60*120	215	31	12
D1201132	5052	H32	.188*60*144	215	31	12
B-12021115	5052	H32	.04*48*96	221	32	12
B-12021115	5052	H32	.04*48*120	221	32	12

PRODUCER: ZHENGZHOU MINGTAI INDUSTRY CO., LTD

ZHENGZHOU MINGTAI INDUSTRY CO., LTD.
郑州明泰实业有限公司

分發

THYSSENKRUPP MATERIALS NA

DART AEROSPACE

STAINLESS STEEL ROUND BAR 304L
3.75" DIA X 144.000"
PART NO.

PO/Rel 28809

Notre certifi que le document reproduit ici est
une copie conforme du rapport fourni par le
fournisseur du matériel ou les données résultent

de l'analyse faite par un laboratoire qualifié.
SIGNÉ PAR: LUCY TRUGLIO
Attn:

BL VIM-455663-003

165un15
Pg 1/2

Certificate of Mill Test Results



740 Imperial Road North

METALLURGICAL TEST REPORT

North American Stainless Canada Inc.
740 Imperial Road North
Guelph, ON N1K1Z3
Canada

Certificate: 45400 4 Mail To:

Customer: 007205 001 THYSSENKRUPP MATERIALS
A DIVISION OF THYSSENKRUPP MATERIALS NA
4700 CHEMIN DU BOIS FRANÇ
SAINT LAURENT, QC H4S1A7

Ship To:

THYSSENKRUPP MATERIALS
A DIVISION OF THYSSENKRUPP MATERIALS NA
4700 CHEMIN DU BOIS FRANÇ
SAINT LAURENT, QC H4S1A7

Date: 3/30/2015 Page: 1

Your Order: VIM630116

MS Order: EN 0050076 10

Corrosion: ASTM A262-10 Prac A/E OK

PRODUCT DESCRIPTION:

Round-Bar, Annealed, Cold Draw
UNS 30400/30403 EN 10264 3.1, ASTM A464/13a
ASTM A276/13, ASTM A479/13a, ASTM A182/13 CHEM ONLY,
ASME SA479/13, ASME SA182/10 CHEM ONLY
AMS 5639H, AMS 5647J, AMS QQS-763C, QQS-763P, ASTM F899/11
SOLUTION ANNEAL TEMP 1900F MIN, ASTM A320/08 CL 1 GR B8
ASTM A193/10A-ASME SA193/10 CL 1 GR B8

REMARKS:

COMPLIES W/REQUIREMENTS OF DPAF 252.225-7009 EU DIRECTIVE
2011/65/EU. ROHS. EAF+AD+CC. NO WELD REPAIR. HEATED AND HFG
IN USA FREE FROM MERCURY AND LOW MELTING ALLOY CONTAMINATION

Product ID	Std # Diameter	Size	Weight	Length	Mark	Pieces	Commodity Code
BH0777 5		3.750	1.166	144.00	12	1	

CHEMICAL ANALYSIS																		
CM(Country of Mnt) ES(Spain) US(United States) ZA(South Africa) JP(Japan)																		
Lead Accreditation Bureau, ISO/IEC 17025, Certificate# U2323																		
Chemical Analysis per ASTM A751/08																		
HEAT	CM	C %	CO %	CR %	CU %	MR %	MO %	N %	NI %	P %								
T587	US	.0185	.2080	18.1650	.4040	1.5260	.3420	.0739	8.5030	.0310								
		S %	SI %															
		.0300	.2080															

MECHANICAL PROPERTIES									
Product ID	1 d	BB	.2YS	UTS	RA	Elong	% 2"		
BH0777 5	R L	210.0	92.28	107.62	70.95	43.00			

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical
Dept. Mgr.

ASB

THYSSENKRUPP MATERIALS NA

DART AEROSPACE

STAINLESS STEEL ROUND BAR 304L
3.75" DIA X 144.0000"
PART NO.

PO/Rel 28809

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SIGNÉ PAR: LUCY TRUGLIO
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BL VIM-455663-003

16 Jun 15
Pg 2/2

Certificate of Mill Test Results



740 Imperial Road North

METALLURGICAL TEST REPORT

North American Stainless Canada Inc.
740 Imperial Road North
Guelph, ON N1K1Z3
Canada

Certificate: 45400 5 Mail To:

Ship To:

Date: 3/30/2015 Page: 1

Customer: 007205 001

THYSSENKRUPP MATERIALS
A DIVISION OF THYSSENKRUPP MATERIALS NA
4700 CHEMIN DU BOIS FRANCOIS
SAINT LAURENT, QC H4S1A7

THYSSENKRUPP MATERIALS
A DIVISION OF THYSSENKRUPP MATERIALS NA
4700 CHEMIN DU BOIS FRANCOIS
SAINT LAURENT, QC H4S1A7

Steel: 304/304L
Finish: CD

Corrosion: ASTM A262-10 Prac A/E OK

Your Order: VIM630116

NAS Order: PN 0050076 10

PRODUCT DESCRIPTION:

Round Bar, Annealed, Cold Draw
UNS 30400/30403 EN 10204 3.1, ASTM A464/13a
ASTM A276/13, ASTM A479/13a, ASTM A182/13 CHEM ONLY,
ASTM A479/13, ASME SA182/10 CHEM ONLY
AMS 5639H, AMS 5647J, AMS QQS-763C, QQS-763F, ASTM F899/11
SOLUTION ANNEAL TEMP 1900F MIN, ASTM A320/08 CL 1 GR B8
ASTM A193/10A-ASME SA193/10 CL 1 GR B8

REMARKS:

COMPLIES W/REQUIREMENTS OF DPAAR 252.225-7009 EU DIRECTIVE
2011/65/EU-ROHS. EAF+AD+CC. NO WELD REPAIR. MELTED AND MFG
IN USA FREE FROM MERCURY AND LOW MELTING ALLOY CONTAMINATION

Product Id	Skid #	Diameter	Size	Weight	Length	Mark	Pieces	Commodity Code
------------	--------	----------	------	--------	--------	------	--------	----------------

BH0777 6		.3750		874	144.00	13	1	
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CHEMICAL ANALYSIS

CM(Country of Melt) ES(Spain) US(United States) ZAS(South Africa) JPL(Japan)

Lab Accreditation Bureau, ISO/IEC 17025, Certificate# U2323
Chemical Analysis per ASTM A751/08

HEAT	CH	C %	CO %	CR %	CU %	NI %	MO %	N %	NT %	P %
T537	US	.0185	.2080	18.1660	.4040	1.5260	.3420	.0739	0.5030	.0310

S %	SI %
.0300	.2080

MECHANICAL PROPERTIES

Product Id	1 d o l c x	HB NO.	.2YS KSI	UTS KSI	RA %	Elong % 1"
BH0777 6	R L	210.0	92.28	107.62	70.95	43.00

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy
of the test methods used, the material meets the specifications stated. These results relate only to the items
tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical
Dept. Mgr.

ABHJTRT BHAVE - 3/30/2015

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: 13032-0750 H354R215

PO / BATCH NO.: 824809 / M32546

DATE: 15.06.19

MATERIAL CERT REC'D: yes
 QUANTITY RECEIVED: 12'
 QUANTITY INSPECTED: 12'
 QUANTITY REJECTED: 0

THICKNESS ORDERED: NA
 THICKNESS RECEIVED: NA
 SHEET SIZE ORDERED: NA
 SHEET SIZE RECEIVED: NA

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y N	
CORROSION	Y <input checked="" type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y N	
CORRECT MATERIAL	<input checked="" type="radio"/> Y N	
CORRECT THICKNESS	<input checked="" type="radio"/> Y N	
PHOTO REQUIRED	Y <input checked="" type="radio"/> N	
CORRECT MATERIAL	<input checked="" type="radio"/> Y N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y N	<u>7587</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW				
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D
SIZE OF TEST SAMPLE				
HARDNESS / DUROMETER READING				

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>9-89</u>	SIGNED OFF BY: _____
DATE: <u>15.06.19.</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO28809**

Purchase Order Date 6/12/2015

PO Print Date 6/12/2015

Page Number 1 of 3

Order From : VC-COP001
THYSSENKRUPP MATERIALS CA LTD
O/A VPK METAL- C/O T27540/PO BOX 4275,POSTAL"A"
TORONTO, ON M5W 5V8
CA

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

FAXED

Contact Name		Buyer	Chantal Lavoie
Vendor Phone	905 669 9444	Customer POID	
		Customer Tax #	10127-2607
Ship To Contact		Terms	Net 30
Ship To Phone		Currency	CAD
Ship Via:	VENDOR'S TRUCK	FOB	FCA - (Free Carrier)
Ship Acct:			

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	M303R0.750	303 Round Bar 0.750	6/18/2015 Yes 6/18/2015		48.00 ✓ f	\$3.55	\$170.40

MATERIAL: AISI 303 SS ROUND BAR AS PER ASTM A582

NOTE: AISI 304/316 NOT ACCEPTABLE

Line Total: \$170.40

2	M304B1.000X1.000	304 bar 1.00 x 1.00	6/18/2015 Yes 6/18/2015		12.00 ✓ f	\$18.75	\$225.00
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MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS PLATE
AS PER ASTM A276 OR ASTM A240

NOTE: AISI 303 NOT ACCEPTABLE

Line Total: \$225.00

SP 15-06-17

Note:

6/12/2015



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO28809**

Purchase Order Date 6/12/2015

PO Print Date 6/12/2015

Page Number 2 of 3

Order From : VC-COP001
THYSSENKRUPP MATERIALS CA LTD
O/A VPK METAL- C/O T27540/PO BOX 4275,POSTAL"A"
TORONTO, ON M5W 5V8
CA

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name
Vendor Phone 905 669 9444

Ship To Contact
Ship To Phone
Ship Via: VENDOR'S TRUCK
Ship Acct:

Buyer Chantal Lavoie
Customer POID
Customer Tax # 10127-2607
Terms Net 30
Currency CAD
FOB FCA - (Free Carrier)

3	M304R0.375	304 ROUND BAR 0.375	6/18/2015 Yes 6/18/2015	12.00 f	✓	\$2.92	\$35.00
MATERIAL: AISI 304/316 SS ROUND BAR AS PER ASTM A276 (NOTE: AISI 303 NOT ACCEPTABLE)							

DAS
9
9-89

Line Total: \$35.00

4	M6061T6B1.000X02.000	6061-T6 Bar 1.00 x 2.00	6/18/2015 Yes 6/18/2015	12.00 f	✓	\$7.01	\$84.10
MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR AS PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221							


Line Total: \$84.10

5	M5052H32S.040	5052-H32 .040 Sheet	6/18/2015 Yes 6/18/2015	40.00 sf	✓	\$1.58	\$63.22
MATERIAL: 5052-H32 ALUMINUM SHEET AS PER QQ-A-250/8 OR AMS-QQ-A-250/8 OR AMS 4016 OR ASTM B209							

SP15-06-17.

Note:

6/12/2015



DART
 AEROSPACE

Dart Aerospace Ltd.
 1270 Aberdeen Street
 Hawkesbury, ON K6A 1K7
 Tel: 613 632 9577
 Fax: 613 632 1053

PURCHASE ORDER
Purchase Order ID PO28809
Purchase Order Date 6/12/2015
PO Print Date 6/12/2015

Page Number 3 of 3

Order From :
 THYSSENKRUPP MATERIALS CA LTD
 O/A VPK METAL- C/O T27540/PO BOX 4275,POSTAL"A"
 TORONTO, ON M5W 5V8
 CA

VC-COP001

Ship To : DART AEROSPACE LTD
 1270 ABERDEEN
 HAWKESBURY, ON K6A 1K7
 CANADA

Contact Name
Vendor Phone 905 669 9444

Ship To Contact
Ship To Phone
Ship Via: VENDOR'S TRUCK
Ship Acct:

Buyer Chantal Lavoie
Customer POID
Customer Tax # 10127-2607
Terms Net 30
Currency CAD
FOB FCA – (Free Carrier)

Line Total: \$63.22

6	M303B0.750X0.250	AISI 303 Bar 0.750 x 0.250	6/18/2015	FN	12.00	\$9.58	\$115.00
			Yes		f		
			6/18/2015				

MATERIAL: AISI 303 SS BAR AS PER ASTM A582
 NOTE: AISI 304/316 NOT ACCEPTABLE

Line Total: \$115.00

7	71401-45	PROCUREMENT QUALITY CLAUSES	6/18/2015		1.00	\$0.00	\$0.00
			No				
			6/18/2015				

Procurement Quality Clauses
 A005 right of entry
 A012 chemical and physical test report
 A016 personnel qualification
 A017 raw material identification (as applicable)
 A026 certification of material conformance
 A041 quality management system
 A042 dart notification by supplier
 A043 retention of quality documents

Line Total: \$0.00

PO Total: \$692.72

Note: Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Change Nbr: 1 Change Date: 6/12/2015